# General Informations:

**Curriculum:** Architecture OTM, Architecture Msc,

**Name of Course: Complex DEsign 3**

**Course Code:** EPM320AN

**Semester:** 9

**Number of Credits: 11**

**Allotment of Hours per Week:** 2/0/8

**Evaluation:** mid-term grade

**Prerequisites: Complex Design 2 EPM319AN**

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## General Course Description

## The course aims to apply the basic knowledge acquired in the various subjects in a complex way, with particular emphasis on conceptual design, integration into the built environment, logical integration of functions, finding aesthetic and structural form, and designing representative spaces. Students will work on architectural scales during the semester, following the urban scale of previous semesters. In addition, the immediate surrounding of the building, its integration into the environment, and anylizis of the settlement have to be addressed. Still, the main emphasis will shift to architectural details, to the articulation of the character of the building.

## This large-scale public building design must master the integration into the built environment (transport system, community space connections, natural environment) and the integration of engineering structures into the architectural concept.

## Learning Outcomes

## The course aims to enable students to apply their previous knowledge in a complex way. By the end of the semester, they should be able to formulate definite and coherent ideas on structural, functional, and artistic issues. However, verbal expression of ideas is not sufficient; they must also be presented in a highly technical and graphic quality.

## By the end of the course, participants will have acquired the following professional competencies:

## Knowledge:

## - Understand the relationships and interactions between humans, the built- and natural environment, and the principles and steps of designing a building type according to the brief.

## - Knowledge of the principles and methods of selecting, designing, and dimensioning typical building structures, building construction solutions, and properties of building materials.

## - Knowledge of architectural drawing and technical documentation types, modern computer-aided design, and documentation.

## Competencies:

## - Ability to see the design process from conceptualization to detail design level and select the most appropriate solutions, materials, and layouts.

## - Ability to address aesthetic, functional, technical, economic, and social requirements in a complex way in architectural design and to produce architectural designs that meet these requirements.

## - Ability to think through the building's structural, structural, and mechanical problems to be designed, prepare a conceptual design, and apply the solutions chosen in practice.

## - Ability to identify problems in the architectural design and construction process, see the interrelationships between different aspects, prioritize, and make a reasonable choice between other options.

## - Ability to produce architectural documentation, both manual and digital, in a graphically sophisticated manner, using the relevant rules and regulations.

## Attitude:

## - Strives for the complete realization of high-quality, harmonious architectural products that satisfy aesthetic and technical requirements following human scale and needs.

## - It applies intuitive and knowledge-based approaches in a balanced and proportionate way.

## - It strives to communicate and promote ecological considerations and to create future-oriented, sustainable, energy-efficient buildings.

## - Open to new information and continuously strive to improve their professional and general literacy.

## Autonomy and responsibility:

## - Takes an independent and proactive approach to professional problems.

## - Independently and proactively take the initiative and act autonomously.

## Subject content

The course involves solving large-scale building design problems. It is not enough to solve the functional system of the building. Understanding the structural-functional relationships and creating an architectural concept in addition to the static and technical parameters is necessary.

Studying and processing published compulsory literature is part of the independent task. Students must present the acquired knowledge's practical application throughout the semester. During the course, students will receive regular feedback on their design process and will be assessed on two occasions with points.

The most frequent feedback is given during consultations. In the consultations, students showcase the project's direction and development, and the theses raised must be demonstrated in drawings. Failure to do so will result in negative feedback and be recorded as absent.

During the course, there will be contact hours in the framework of architectural lectures in addition to consultations. The contact hours will support the design process by forming a coherent whole. However, constant logging of the process is required; the design process needs to be logged and will be an essential focus of the assessment.

The first feedback, quantified by a score, will take place in the 7th week of teaching. Then, a case study of a building of your choice will be presented in a short presentation. Deadline for submission according to the course program. Corrections may be made at the following contact hour.

The critical consultation takes place in the 8th week of the course. For this session, the design must be drawn up for the first time following the specified content requirements. During the critical consultation, students present their plan briefly orally. The presentation will be followed by a short feedback session with the instructor. Corrections may be made at the following contact hour.

The semester ends in week 13. You must register for this session according to the timetable. Only fully completed work is allowed to participate in the final presentation. Those who do not attend the final presentation or arrive with incomplete material will receive a "signature refused" in the academic system. The signature and the mid-term grade can be obtained during the examination period. This presentation session is two days long. The exact time is indicated in the course timetable.

**Examination and evaluation system**

*In all cases. Annex 5 of the Statutes of the University of Pécs, the* ***Code of Studies and Examinations (CSE)******of the University of Pécs*** *shall prevail*

[*https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022\_06\_23\_ENG.pdf*](https://international.pte.hu/sites/international.pte.hu/files/doc/TVSZ%202022_06_23_ENG.pdf)

Attendance in class is one of the conditions for obtaining a signature at the end of the semester. Failure to attend 30 % of the lectures and consultations will automatically result in a " fail " grade. The absence is indifferent and cannot be made up with a certificate. Consultations are only possible during the announced contact hours. Insufficient activity in the class will be considered an absence.

Grading will follow the course structure with the following weighting:

Case study analysis 5%

Critical consultation 20%

Critical analysis of planning journals +/-

Final presentation 75%

The signature of the instructor certifies that the student has fulfilled his/her mid-term obligations:

- attended classes, prepared for classes according to the course program

- has fulfilled the course requirements, has attended the course, has attended the course, has attended the course

- met the formal and substantive requirements, i.e., completed all the required parts of the assignment

If these are met, a signature will be given and a grade may be given for the term's work. The grade can be 1 (unsatisfactory) regardless of the signature. The presence of the work parts does not automatically mean completing the course!

The general textual evaluation of grades is as follows:

1 (fail) The work will be graded as unsatisfactory if it does not meet the expected high standard of appearance. In addition, if the term paper does not meet the course's objectives: inability to function as a functional system or lack of architectural concept.

2 (Pass) The minimum requirement for a satisfactory grade is the existence of an appreciable architectural concept and a basic functional system.

3 (Satisfactory) The assignment should be graded as satisfactory/mediocre if the architectural concept is only assessable, but the functional and structural scheme is coherent.

4 (Good) The work can be rated good if the architectural concept is sound and coherent with the functional and structural context.

5 (Excellent) A work that fulfills the formal and content requirements to a large extent, with an exciting concept, a functionally excellent building, a building that is form-structurally coherent and sophisticated, and a professionally finished work of high quality

**Attendance**

In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description..

Method for monitoring attendance (e.g.: attendance sheet / online test/ register, etc.)

**Assessment**

**Mid-term assessments, performance evaluation and their ratio in the final grade** (The samples in the table to be deleted.)

|  |  |  |
| --- | --- | --- |
| **Type** | **Assessment** | **Ratio in the final grade** |
| Case study analysis | *max 5 points* | *eg. 5 %* |
| Critical consultation | *max 20 points* | *eg. 20 %* |
| Planning journal | *+/-* |  |
| *Final Presentation* | *max 75 points* | *eg. 75 %* |

**Opportunity and procedure for re-takes (PTE TVSz 47§(4))**

The specific regulations for improving grades and retaking tests must be read and applied according to the general Code of Studies and Examinations. E.g.: all tests and assessment tasks can be repeated/improved at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

**Requirements for the end-of-semester signature**

*The signature of the instructor certifies that the student has fulfilled their mid-semester obligations:*

*-attended classes (prepared for classes according to the timetable/schedule)*

*-complied with/exhibited good conduct in completing the course, making corrections, making up work*

*-complied with formal/content requirements (all parts of work completed and/or corrected, made up)*

*If these are fulfilled, the signature will be given for a mid-term subject with a grade.*

*The signature is only proof of the above; the evaluation of the professional content is graded 1,2,3,4,5. So, you may have fulfilled all your obligations and therefore receive a signature, but you will receive an unsatisfactory grade due to the lack of professional content. If this happens at the end of the term (week 15), you may attempt to improve your grade 1 time during the exam period.*

*Week 13 - end of semester*

*-if passed, signature and mid-semester mark! (by 12.00 noon on Friday of week 15)*

*Mid-semester grades are 5 grades (1,2,3,4,5)*

*-if not passed, then NEPTUN recording (by Friday 15th week 12.00) - signature denied then->*

*-or if the signature is given, but the grade is unsatisfactory NEPTUN recording (by 12.00 noon Friday 15th week) then ->*

*week 15exam period correction make-up - all exams 1x*

*-if passed, then signature and midterm grade!*

*Midterm grade is 5 grades (1,2,3,4,5)*

*-if you pass and have a signature, but the midterm grade is unsatisfactory(1), then NEPTUN recording you can retake the course in the next academic year!*

*-if not passed, then signature denied - NEPTUN recording you can retake the course in the next academic year)*

*Signature is only to certify the above, the professional content is assessed by a grade of 5 (1,2,3,4,5) on the exam! (max 50% midterm performance, minimum 50% exam performance. The Institute's recommendation is 40-60%!)*

***Re-takes for the end-of-semester signature*** *(UP CoS 50§(2))*

*The specific regulations for grade betterment and re-take must be read and applied according to the general Code of Studies and Examinations. E.g.: all the tests and the records to be submitted can be repeated/improved each at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.*

**Grade calculation as a percentage**

based on the aggregate performance according to the following table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Grade: | 5 | 4 | 3 | 2 | 1 |
|  | A, excellent | B, good | C, satisfactory | D, pass | F, fail |
| Performance in % | 85%-100% | 70%-84% | 55%-69% | 40%-55% | 0-39% |

## Readings and Reference Materials

In order of relevance. (In Neptun ES: Instruction/Subject/Subject details/Syllabus/Literature))

Required:

[1.] The study guides in the appendix

Recommended:

[2.] Bert Bielefeld (Ed.): Planning architecture, 2016. Birkhauser, Basel

[3.] Andrea Deplazes (Ed.): Constructing architecture - Materials Processes Structures, 2013. Birkhauser, Basel

## Methodology

The course is based on collaboration, participation, and discussion through classroom sessions. It is an interaction between students and faculty; teaching methods such as "problem-based learning" and "learning by doing" are used. Lectures of a frontal nature represent a small slice of the methodology. The emphasis is on active learning and a critical approach. To this end, the consultations will be divided into 4-person consultations. Although the consultations can be freely organized, a proactive approach is required.

Method:

1. continuous consultation during class time according to the syllabus announced in the detailed course program

## 2. independent work during class time according to the semester timetable announced in the detailed syllabus

## 3. independent work at home

## 4. independent research, data collection, analysis

## 5. independent consultation with experts independent of the lecturers of the subject

## The students' method of problem-solving models the actual design process (complex problem approach = parallel study of function-structure-form) but also reflects the academic nature of university-level education (research-analysis work).

## The aim is to strengthen teamwork and to exploit its advantages (more eyes see more), with particular attention to ensuring that individual responsibility (to make one's plan) does not become team responsibility. Teamwork, therefore, means, discussing the work of the individual together.

## During the processing of the semester's planning tasks, the students have to go through phases together with their consultants:

## - analysis and conceptual phase

## During the first weeks of the semester, in practical classes supported by theory and lectures, students analyze the types of offices and their spatial relationship systems. In the experimental design and modeling framework, they will construct modern working spaces, the empirical conclusion of which will be the basis for developing a concrete design concept. By the end of the conceptual design phase, the analysis of the environmental conditions (location, spatial structure, built environment, density - built-up area analysis, etc.), the interpretation of the site characteristics (site geometry, orientation), the massing, the definition of the main directions, the main groups of functions, the layout of the layout will have been completed. Design guidelines should also be presented through various diagrams, drawings, and working mock-up photos. Documenting the creative thinking process is essential for successful communication- this should be documented in the design journal nr 1 (5p)

## - Design phase

## The second half of the semester is a time for unfolding and concretizing the design. The result is a crystallized building, where mapping evolves closely with exploring external connections. The system of interior architecture and structural nodes is worked out. The documentation will include drawings at M:1:100 scale, a site plan showing the installation, perspective views and a model. Failure to complete any part of the work will result in failure of the assignment and will not be assessed and the assignment will not be considered complete. The assignment also includes the presentation of revised installation drawings and a mock-up, with a visual and clearly understandable demonstration of the development.

## Each phase should be discussed at the team level (students + the consultants) during the class:

## - joint discussion - presentation and discussion of the work done at home, raising any problems that have not yet been identified, analysis of possible answers to the issues identified

## - independent reflection on the task

## - joint discussion - presenting and discussing the work done in class, raising any problems that have not yet been identified, analyzing possible answers to the issues identified

## Students with Special Needs

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

## Detailed requirements and schedule of the Course

DESIGN OF A SOCIAL HOUSING ESTATE IN PÉCS

*Built environment*

***Planning task***

General information

The proposed building will be centrally located. The quality of the building ought to be high, even the the function might sound profound. By quality, we also mean the durability of the materials used. On the other hand, it must also serve a long-term spatial and functional purpose.

The new building aims to provide quality spaces for its users while simultaneously opening up significantly to its surroundings.

*Urban design links and objectives*

The design process aims to create a multi-story residential building that contributes to the vitality of the surrounding urban environment. Therefore, it should be both ecologically and socially sensitive to its surroundings.

The expectation of the project is unique in its concept and architectural language. The architectural idea of the house is essential. The artistic organization of space should not stop at the external plane of the house but should also include the spatial formulation of enclosed or open-plan atriums.

The new social housing cannot be a completely enclosed system. The aim is that not only the building users should be able to enjoy the associated public space. Therefore, ground floor commercial and service units should be designed to create high-quality urban areas.

Structural-functional relationships and objectives

The design of the new building should consider the height of adjacent buildings. In addition, care should be taken to provide fire escape routes, particularly in atrium situations, considering the fact that many disabled people seek help in these kind of facilities.

The number of car parking spaces shall be counted in accordance with the relevant Annex to the NTBR. However, it is particularly important to plan for the necessary bicycle parking!

An intensive green roof should be planned to improve the microclimate.

Underground parking

The number of car parking spaces must be sized following the NTBR. In addition, provision should be made to infill commercial and service functions in the underground car park. The underground car park shall have a two-way entrance.

**Tasks and minimum requirements**

The presented work should reflect the knowledge acquired in lectures, consultations, and independent work. The aim should be to achieve a high-quality, harmonious architectural product that meets aesthetic and technical requirements.

Analysis of case study - 5 points

Analyze a building of your choice.

A short presentation of up to 120 seconds should be given on the chosen building. The presentation's focus should be on the structural-spatial-functional relationships of the building.

Required content:

Digital presentation in .pdf format

Assessment criteria:

- Presentation of typical structural and building design solutions

- Presentation of aesthetic, functional, technical, economic, and social considerations

- the creation of a sophisticated digital presentation

Critical consultation 20 points

In a maximum of 7 minutes, present the current state of the design process in a digital presentation.

Required content:

- concept diagrams

- axonometry

- site plan

- floor plans of all different levels

- 2 sections

- min. 2, max. 3 visual plans

- mass model 1:500

Evaluation criteria:

- the relationships between man, the built environment, and the natural environment

- typical structural and construction solutions

- aesthetic, functional, technical, economic, and social considerations

- the creation of a sophisticated digital presentation

Design journal

A design logbook should manage the independent assignment and the design process. The design journal is a booklet with a sophisticated design in which the manual and/or edited drawings are logged. It is required to be presented at consultations. Therefore, it must be presented twice during the semester, at the critical consultation, and at the final presentation in booklet format.

Final presentation 75 points

concept 20- structure 20- functionality and sustainability 20 – presentation (quality of graphics and model ) 15

Within a maximum of 7 minutes, you summarize the semester assignment.

The presentation is technologically hybrid: technical drawings are to be presented on cascaded boards of a size of your choice. In addition, the display of visual plans, concepts, and axonometric diagrams is digital.

Required content:

- axonometry

- conceptual diagrams

- site plan 1:500

- floor plan of all different levels 1:200

- 2 sections 1:200

- main wall section with facade view and floorplan detail 1:50

- facades 1:200

- min. 3, max. 5 views

- mass model 1:500 with surrounding, also showing the facade structure (better as the CC on week 8)

Evaluation criteria:

- According to the thematic output competences – concept, structural coherence, sustainability, quality of the presentation (drawings and model)

Annexes

M1 Design base map

M2 Regulatory map

M3 Orthophoto

S1 Dr. Anna Mária Tamás, Krisztián Kovács-Andor Kovács: Graphic design guide

S2 Public building design guide

S3 Transport and parking guide

## Schedule

Required literature for the lectures: the uploaded pdf of the slides in the Teams

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| COURSE OUTLINE - COMPLEX DESIGN 3 - Thu 7:45-15:45 | | | | | | |
| month | day | week | Lecture 8:00-9:30 A216 | Lecture 9:30-11:00 A216 | topic | practice 11:00-15:45 A216 |
| September | 5 | 1 | Intro about the task | | Site visit (individual) | |
| 12 | 2 | Urban aspects of the region  J.Gy. | Social housing – functionality and regulations  Z.E.Sz | Research about the region - | consultation / individual work |
| 19 | 3 | LECTURE  ON BUILDING STRUCTURES  (Sz.G) | Presentation methods | RESEARCH critical analysis of high-quality, contemporary examples of sustainable hotels | consultation / individual work |
| 26 | 4 | Presentation of case studies  Submission: 25.09.2024, 23.59, TEAMS  A short presentation of up to 120 seconds should be given on the 1 preferred chosen building. The presentation's focus should be on the structural-spatial-functional context of the building.  The order of the presentations and the buildings chosen are shown in the excel sheet published in the TEAMS folder.  The format should be in .pdf format; the file name should be the student's name.  Short oral feedback and score, maximum 5 points | | Layout , installation schemes | evaluation of case studies  installation and layout principles. |
| October | 3 | 5 |  | BUILDING CONSTRUCTION CONSULTATION | Volumetric and section schemes - | consultation / individual work |
| LECTURE  ON BUILDING STRUCTURES (Sz.G) |
| 10 | 6 | Urban aspects of residential developments  J.Gy | Social housing –  - case studies  Z.E.Sz | Floor plan schemes  Structural choice based on sections | consultation / individual work |
| 17 | 7 | Critical consultation  Submission: 16.10.2024, 23.59, TEAMS  The critical consultation will take place in two study groups.  In a maximum of 7 minutes, a digital presentation of the current state of the design process is required.  The format should be in .pdf extension, the file name should be the student's name.  Required content:  - concept diagrams  - axonometry  - site plan  - floor plans of all different levels  - 2 sections  - min. 2, max. 3 visual plans  - after-use schematic drawing  - mass model 1:500  Short oral feedback and score, maximum 20 points  Assessment criteria:  - the relationships between man, the built environment, and the natural environment  - typical structural and construction solutions  - aesthetic, functional, technical, economic, and social considerations  - the production of a sophisticated digital presentation  Presentation of the planning journal:  In parallel to the critical consultation, the tutors evaluate the planning process.  Short oral feedback and score,  Assessment criteria:  - Apply intuitive and knowledge-based approaches simultaneously and proportionately  - acts independently and proactively when dealing with professional problems. | | | |
| 24 | 8 | LECTURE  ON BUILDING STRUCTURES  Sz.G | BUILDING CONSTRUCTION CONSULTATION | Floor plans detailed  Structural choices chown on sections | consultation / individual work |
| november | 31 | 9 | Autumn break | | | |  | |  |  |
|  |
| 7 | 10 | Urban vision of the region  J.Gy | interiors  Z.E.Sz | Materiality – facades | consultation / individual work |  |
|  |
| 14 | 11 | LECTURE ON BUILDING STRUCTURES | BUILDING CONSTRUCTION CONSULTATION | Assessment of the quality of the layout, structure, and interior | consultation / individual work |  |
|  |
| 21 | 12 | The future of social housing  J. Gy | interiors  Z.E.Sz | Interior / spatial arrangement Finalizing concept for reuse | consultation / individual work |  |
|  |
| 28 | 13 | Critical consultation /  Final check-up for signature | | | |  |
| 6 | 14 | FINAL PRESENTATION FOR GRADE  Submission: 5.12.2024, 23.59, location: common TEAMS group  For the final presentation of week 14, please register by:5.12.2024, 23.59, place: common TEAMS group  In case of low attendance at this final presentation, a consultation will follow the presentations.  A maximum of 7 minutes is required to summarize the mid-term assignment.  The presentation is technologically hybrid:  Technical drawings must be presented on posters of the chosen size. The presentations of visual plans, concepts, and axonometric diagrams are digital.  The format should be in .pdf format, the file name should be the student's name.  Required content:  - axonometry  - conceptual diagrams  - site plan 1:500  - floor plan of all different levels 1:200 – emphasizing flexibility  - 2 sections 1:200  - main wall section with rotated facade view 1:50  - facades 1:200  - min. 3, max. 5 views  - mass model 1:500, showing also the facade structure  Short oral feedback and score, maximum 75 points  Evaluation criteria: concept 20- structure 20- functionality and sustainability 20 – presentation (quality of graphics and model ) 15 | | | |  |
|  | 12 | 15 | RETAKE – LAST CHANCE | | | |  |

Erzsébet Szeréna Zoltán

course director

Pécs,25.08.2024